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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HARPER, HOLLY R	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/846,555	DANJO ET AL.	
	Examiner	Art Unit	
	Holly R. Harper	2879	

-- The MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 8-10, and 28-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Shibata (USPN 6,586,872 B2).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In regard to claims 1-6, the Shibata reference discloses an image display device (Column 3, Lines 10-16) with an electron source (Figure 2B, Element 4) and an image display member (Figure 20, Element 186). There is a precursor made of a substrate (Figure 2B, Element 1) and an insulating film (Figure 2B, Element 6). The film is a metallic oxide where the oxide is either nickel, iron, or cobalt and the principle component is silica (SiO_2). The film is a fine particle film (Column 4, Lines 66- Column 5, Lines 7). This film can act as an anti-static, sodium

blocking, and insulating film. The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a region of that surface which is to be coupled to the image display device (Figure 2B).

In regard to claim 8, the Shibata reference discloses that the metal oxide is particulate (Column 5, Line 2).

In regard to claim 9, the Shibata reference discloses that the metal oxide is either nickel, iron, or cobalt oxides (Column 5, Lines 5-6). These are electroconductive.

In regard to claim 10, the Shibata reference discloses that the metal oxide is either nickel, iron, or cobalt oxides (Column 5, Lines 5-6).

In regard to claim 28, the Shibata reference discloses an electron source made from a precursor and an electron emitting element disposed on the precursor (Figure 2B, Elements 1, 6, and 4).

In regard to claim 29, the Shibata reference discloses a conductive film having an electron emitting portion (Column 6, Lines 39-43).

In regard to claim 30, the Shibata reference discloses that the electron emitting devices are wired in a matrix configuration through a plurality of row and column direction wires (Figure 20).

In regard to claim 31, the Shibata reference discloses an image display device with a precursor and an electron emitting device on the precursor (Figure 2B) and an image display member (Figure 20, Element 186).

In regard to claim 32, the Shibata reference discloses a supporting member coupling the electron source to the image display member (Figure 20, Element 182).

In regard to claim 33, the Shibata reference discloses a conductive film having an electron emitting portion (Column 6, Lines 39-43).

In regard to claim 34, the Shibata reference discloses that the electron emitting devices are wired in a matrix configuration through a plurality of row and column direction wires (Figure 20).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandes et al. (USPN 6,031,250) in view of Kawamura et al. (US RE37,183 E).

In regard to claims 1-2, the Brandes reference discloses an image display device (Column 1, Lines 19-21) with an electron source (Figure 1D, Element 7) and an image display member (Column 13, Lines 56-63). There is a precursor made of a substrate (Figure 1D, Element 1) and a film made of silicon dioxide (Figure 1D, Element 2). The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a region of that surface which is to be coupled to the image display device (Figure 1D). The Brandes reference does not specify that the SiO_2 layer is made with a metal oxide. The Kawamura reference teaches that electroconductive metal oxide particles of tin, antimony, or indium (Column 5, Lines 35-37) are included in the SiO_2 layer to create an anti-static film and to improve the strength of the film

(Column 5, Lines 63-64). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate metal oxide particles, as taught by Kawamura, into the SiO_2 film to increase the strength of the film.

In regard to claims 3-4, the Brandes reference discloses a precursor made of a substrate (Figure 1D, Element 1) and a film made of silicon dioxide (Figure 1D, Element 2). The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a region of that surface which is to be coupled to the image display device (Figure 1D). The precursor is part of an image display device (Column 1, Lines 19-21) with an electron source (Figure 1D, Element 7) and an image display member (Column 13, Lines 56-63). The Brandes reference does not specify that the SiO_2 layer is made with a metal oxide. The Kawamura reference teaches that electroconductive metal oxide particles of tin, antimony, or indium (Column 5, Lines 35-37) are included in the SiO_2 layer to improve the strength of the film (Column 5, Lines 63-64). The film can be used as a sodium blocking film, antistatic film, or insulating film. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate metal oxide particles, as taught by Kawamura, into the SiO_2 film to increase the strength of the film.

In regard to claim 5, Brandes reference discloses an image display device (Column 1, Lines 19-21) with an electron source (Figure 1D, Element 7) and an image display member (Column 13, Lines 56-63). There is a precursor made of a substrate (Figure 1D, Element 1) and an insulating film made of silicon dioxide (Figure 1D, Element 2). The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a region of that surface which is to be coupled to the image display device (Figure 1D). The Brandes reference

does not specify that the SiO_2 layer is made with a metal oxide. The Kawamura reference teaches that electroconductive metal oxide particles of tin, antimony, or indium (Column 5, Lines 35-37) are included in the SiO_2 layer to improve the strength of the film (Column 5, Lines 63-64). This film can act as an anti-static, sodium blocking, and insulating film. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate metal oxide particles, as taught by Kawamura, into the SiO_2 film to increase the strength of the film.

In regard to claim 6, Brandes reference discloses an image display device (Column 1, Lines 19-21) with an electron source (Figure 1D, Element 7) and an image display member (Column 13, Lines 56-63). There is a precursor made of a substrate (Figure 1D, Element 1) and a film made of silicon dioxide (Figure 1D, Element 2). The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a region of that surface which is to be coupled to the image display device (Figure 1D). The Brandes reference does not specify that the SiO_2 layer is made with a metal oxide. The Kawamura reference teaches that electroconductive metal oxide particles of tin, antimony, or indium (Column 5, Lines 35-37) are included in the SiO_2 layer to improve the strength of the film (Column 5, Lines 63-64). This film can act as an anti-static, sodium blocking, and insulating film. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate metal oxide particles, as taught by Kawamura, into the SiO_2 film to increase the strength of the film.

In regard to claim 7, the Brandes reference discloses that there can be more than one layer of silicon dioxide on the substrate (Column 7, Lines 39-43).

In regard to claim 8, the Kawamura reference discloses that the metal oxide is in particle form (Column 5, Lines 34-39).

In regard to claim 9, the Kawamura reference discloses that the particles are made of an electroconductive metal oxide such as SnO_2, In_2O_3, or Sb_2O_3 (Column 6, Lines 29-31).

In regard to claim 10, the Kawamura reference discloses that the metal oxide is either tin, antimony, or indium (Column 6, Lines 29-31).

In regard to claim 28, the Brandes reference discloses a precursor (Figure 1D, Elements 2 and 1) and an electron emitting device disposed on the precursor (Figure 1D, Element 7).

In regard to claim 31, the Brandes reference discloses a precursor (Figure 1D, Elements 1 and 2), an electron emitting device on the precursor (Figure 1D, Element 7), and an image display member (Column 13, Lines 56-63).

5. Claims 11, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandes et al. (USPN 6,031,250) in view of Kawamura et al. (US RE37,183 E) in further view of Kerslick et al. (USPN 6,465,954 B2) hereinafter "Kerslick".

In regard to claims 11, 18, and 19, the Brandes reference discloses an image display device (Column 1, Lines 19-21) with an electron source (Figure 1D, Element 7) and an image display member (Column 13, Lines 56-63). There is a precursor made of a substrate (Figure 1D, Element 1) and a film made of silicon dioxide (Figure 1D, Element 2). The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a region of that surface which is to be coupled to the image display device (Figure 1D). The Brandes reference does not specify that the SiO_2 layer, be made with a metal oxide. The Kawamura reference teaches that electroconductive metal oxide particles of tin, antimony, or indium

(Column 5, Lines 35-37) are included in the SiO_2 layer to create an anti-static film and to improve the strength of the film (Column 5, Lines 63-64). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate metal oxide particles, as taught by Kawamura, into the SiO_2 film to increase the strength of the film.

The Brandes in view of Kawamura reference discloses a precursor formed with an antistatic film on a substrate. The Brandes reference discloses that the emitters can be made of diamond (Column 11, Lines 4-6) but it does not specify that the electron source is formed using a getter material.

The Kerslick reference teaches that a getter material with a diamond film can be used to form the cathode (Column 2, Lines 47-50) of a field emission device (Column 1, Lines 45-46). The specified composition allows for smaller and simpler design (Column 2, Lines 50-52). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to use a getter material to form a cathode, as taught by Kerslick, to allow for a smaller and more simple design.

6. Claims 12-17 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandes et al. (USPN 6,031,250) in view of Kawamura et al. (US RE37,183 E) in further view of Kerslick et al. (USPN 6,465,954 B2) hereinafter "Kerslick".

In regard to claims 12-14 and 20-23, the Brandes reference discloses an image display device (Column 1, Lines 19-21) with an electron source (Figure 1D, Element 7) and an image display member (Column 13, Lines 56-63). There is a precursor made of a substrate (Figure 1D, Element 1) and an insulating film made of silicon dioxide (Figure 1D, Element 2). The film is on a surface of the substrate at a region where electron emitting devices are disposed but not on a

region of that surface which is to be coupled to the image display device (Figure 1D). The Brandes reference does not specify that the SiO_2 layer, is made with a metal oxide. The Kawamura reference teaches that electroconductive metal oxide particles of tin, antimony, or indium (Column 5, Lines 35-37) are included in the SiO_2 layer to create an anti-static film and to improve the strength of the film (Column 5, Lines 63-64). The film can be used as an antistatic, insulating, or sodium blocking film. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate metal oxide particles, as taught by Kawamura, into the SiO_2 film to increase the strength of the film.

The Brandes in view of Kawamura reference discloses a precursor formed with an silicon dioxide film with metal oxide particles on a substrate. The Brandes reference discloses that the emitters can be made of diamond (Column 11, Lines 4-6) but it does not specify that the electron source is formed using a getter material.

The Kerslick reference teaches that a getter material with a diamond film can be used to form the cathode (Column 2, Lines 47-50) of a field emission device (Column 1, Lines 45-46). The specified composition allows for smaller and simpler design (Column 2, Lines 50-52). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to use a getter material to form a cathode, as taught by Kerslick, to allow for a smaller and more simple design.

In regard to claims 15 and 24, the Brandes reference discloses that there can be more than one layer of silicon dioxide on the substrate (Column 7, Lines 39-43).

In regard to claim 15, the Examiner notes that the claim limitation of "SiO_2 laminated on said SiO_2 film" is drawn to a process of manufacturing, which is incidental to the claimed

apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

In regard to claims 16 and 26, the Kawamura reference discloses that the particles are made of an electroconductive metal oxide such as SnO_2, In_2O_3, or Sb_2O_3 (Column 6, Lines 29-31).

In regard to claims 17 and 27, the Kawamura reference discloses that the metal oxide is either tin, antimony, or indium (Column 6, Lines 29-31).

In regard to claim 25, the Kawamura reference discloses that the metal oxide is in particle form (Column 5, Lines 34-39).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Holly Harper
Patent Examiner
Art Unit 2879

ASHOK PATEL
PRIMARY EXAMINER